INTRODUCTION

Sexually transmitted disease (STD) has the highest rate in United States (Chiang et al., 2004). STDs are epidemics and present an enormous health and economic consequences (Da Ros et al, 2008) and has ongoing costly public health challenge (Farley et al., 2003). STDs disease in high-prevalence communities has significant morbidity (Trent et al., 2006). Lower genital complaint account for more than 10% of outpatient (Landers, et al., 2004) Multiple factors affect a woman develops a genital tract infection during the post partum or post abortion (Tharpe., 2008). Infection of genital tract & rectum and or pharynx can transmit sexually, but a few are exclusively sexually transmitted (Hay, et al., 2009). Chlamydia trachomatis and Neisseriagonorrhea are the most common bacterial cause STDs (Farley, 2003). Economic, long term sequela for individuals and social impact of these infections make STD prevention a critical issue (Genuis SJ et al, 2004). STDs screening should be done for prevention (Da Ros, et al., 2008) prevention can be achieved through education of people (Da Ros., et al, 2008). Although STDs disease is an individual issue but global impact for assessing appreciates management strategies is important (Genuis, et al., 2004). None of STDs has attracted attention like HIV. This infection is the second leading cause of disability in the world and this shows the importance of the issue (Genuis et al., 2004). Asymptomatic screening and frequent follow up screening are essential aspect of preventive services (Trent, et al., 2006). STDs consequences for adult girls can be particularly devastating.
Adolescent risky sexual activity is the significant risk for sexually transmitted infections and their sequela (Genuis, et al., 2004). Because of the STDs pandemic and importance of them, reevaluate STD prevention and management should begin. (Genuis et al, 2004). In most of the world Gynecologists routinely manage sexually transmitted infection(Hay P et al, 2009). Some disease that secondary to genital tract infection like Puerperal fever has been a leading cause of maternal mortality following child birth or abortion(Tharpe, 2008). Treatment options for sexually transmitted disease limited to several anti-viral therapies. Recently there has been interest in development of topical microbicides for prevention and infectious of sexually transmitted disease (Nazli et al., 2009). Midwifery mentioned as a key personnel for achieving the goal of maternal and newborn/child survival (Fullerton et al., 2011). Poor aseptic technique and inadequate sterilization of instrument mentioned as a risk factor for genital tract infection(Tharpe, 2008). Attention to hand washing and strict adherence to aseptic technique known as a foundation of infection prevention(Tharpe, 2008). Women with fever and other signs and symptom of infection has been suggested for improve care(Tharpe, 2008). Therefore, the present study was made, aimed at analysis of the effect of education on the knowledge and clinical skills by the selected personnel of medical and health care centers in the city of Shiraz on genital area infections.

MATERIALS AND METHODS

This current study performed to evaluate the effect of education of gynecologic infections on the knowledge and clinical skills of staff in selected health clinics of Shiraz. Data was collected with structured questionnaires.

Participants and data collection

Data collection was performed among all of the midwifery that works in health clinics in Shiraz. First we divide active health clinics to 2 groups that according to the location in the city. Each group divided to case and control group that both of the case groups with each other and both of control groups with each other considered as a unique case & control group. We choose 70 subjects by using systematic randomize sampling that makes equal chance for the entire midwife in selected health clinics of Shiraz. Using the formula for the comparison of the two means of the number of samples, 70 subjects in two groups, case (35) and control (35) of the personnel (AS and BS in Midwifery) employed by selected Medical and Health Care centers in the city of Shiraz were chosen. There was no difference seen between knowledge and skill grade of midwifes chosen for study before the education (p > 0.05). The educational intervention was made in the form of a two-day educational workshop for the experimental group, using active participation methods (group discussion, questions and answers, showing pictures and speech) on 7 infections in the genital area (candida vaginitis, trichomonas vaginitis, bacterial vaginitis, chlamydia infection, gonorrhea, herpes and genital wart) and the knowledge and clinical skills of the experimental and the control group in three stages (before, immediately after, and 6 weeks after, intervention) were evaluated using a questionnaire (for determining knowledge) and 7 Objective Structured Clinical Examination (OSCE) stations (for studying skills). The questionnaire has validity (that means study able to answer the questions it purposed to answer) and reliability (describe the overall consistency of a measure). For validity of study we consulted with several experts in the fields of psychometrics and education and according to their comment essential reformation done. For reliability of the study we involved two graduated midwifery to observe function of 10 midwifery students according to the check list that prepared by researcher and consisted of 50 multiple choice questions on the above 7 infections, in instructor made form and its validity was confirmed by the instructors vice and its reliability was confirmed by carrying out a guiding study on 20 personnel of Medical and Health Care Centers (midwives). All questions had the same score (correct answer: 1 point, incorrect answer: 0 point).

OSCE is a modern type of examination used to test clinical performance. Three type of station defined in OSCE that include 1- procedure station or examination station 2- Question station 3- Resting station. Designed OSCE stations included images and written questions concerning the diseases in questions, mulaj, devices required and inspection lists for performing of skills. The score of each station was computed based on points earned from the inspection list and points earned for written questions.
Participants in the case and control groups at any stage of the study, referred for participation in tests in two district days. First, a knowledge test was conducted and then, 7 subjects were conducted to the place where 7 OSCE stations were located. The time spent at each station was 10 min. and after its completion, a bell rang and the subjects in the 7 stations left the stations and were replaced by 7 other subjects. This way, all subjects participated in OSCE test. During the OSCE test, other participates were engaged in study in another place, supervised by an examiner. For moral reasons, at the end of the study, a two-day educational workshop was held for members of the control group as well.

Statistical analysis
All statistical analysis was performed with statistical package for social sciences version 17.0 (SPSS Inc., Chicago, USA). The results are expressed as mean value ± standard deviation (SD) for 95% CI with 5% degree of freedom or proportions. Based on the Mann-Whitney test, the experimental and control groups were homogeneous as regards mean work experience, educational level, history of passing educational course. A 2-sided p-value <0.05 was considered statistically significant.

RESULTS
Overall, we included 70 midwives who works at health care center. Of the 70 studied midwifes, 6 midwifes during the analysis of data phase were out of study, 3 subjects from the control group and 3 from the experimental groups refrained from participation in the study, participant number reduced to 64 midwifes. There was no difference between the mean of antecedent in profession (P=0.177). There was no significant difference between the groups as regards knowledge and clinical skills before intervention (P=0.777 and P=0.248), while they showed a significant difference immediately after and 6 weeks after education as compared with the control group (P<0.001). The outcome of our education effects is demonstrated in Table 1 and 2. Based on Wilcoxon test, the mean knowledge and skills score in the experimental group immediately after and 6 weeks after educational intervention showed a significant difference as compared with before it. Also, a significant difference was seen in the mean knowledge score 6 weeks after intervention and the mean skills score immediately after and 6 weeks after educational intervention in the control group (P<0.001, P<0.001). The percent of variation in the mean knowledge and clinical skill scores between the two groups was significant (P<0.001), indicating a higher mean knowledge and skill score in the experimental group as compared with the control group.

Table 1. Compare mean of knowledge score in the experimental group immediately after and 6 weeks after

<table>
<thead>
<tr>
<th>Test Group</th>
<th>Case</th>
<th>Control</th>
<th>P-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Before INV</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean Standard deviation</td>
<td>22.06</td>
<td>22.03</td>
<td>0.777</td>
</tr>
<tr>
<td></td>
<td>6.13</td>
<td>5.07</td>
<td></td>
</tr>
<tr>
<td><strong>Immediately after INV</strong></td>
<td>39.68</td>
<td>21.87</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Mean Standard deviation</td>
<td>4.95</td>
<td>7.56</td>
<td></td>
</tr>
<tr>
<td><strong>6 weeks after INV</strong></td>
<td>40.53</td>
<td>24.65</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Mean Standard deviation</td>
<td>4.46</td>
<td>4.46</td>
<td></td>
</tr>
</tbody>
</table>

DISCUSSION
Health care staffs are the key players in the prevention and management of STDs and additional STDs training for them seems necessary. Good midwifery practice outcomes have helped attract client and positively affected reimbursement rates. Independent midwifery practice is effective in decrease the rate of female reproductive problem and maternal and neonatal deaths. Health care professionals that managed public health services are believes that medical education should prepare healthcare professionals to be able to deal with the intricacies of healthcare delivery systems in addition to their clinical skills and
Training in healthcare management relevant to the needs of healthcare professionals. (Kaur et al., 2013) Health professionals require a unique set of knowledge and skills in order to meet increasing expectations to use research evidence to inform practice and policy decisions. Improvement in the maternal and neonatal mortality and morbidity occurred in some developing and developed countries cause them to encounter these problems through effective management of maternal and neonatal health problem and the implementation of strong midwifery and nursing education. Midwives attempted to verify if the information about maternal genital tract health was accurate, as most genital tract assessment involved maternal self-assessment. The economic status of the country should not create doubt for planning a professional and cost effective care provided by midwives because the care that provided is the best strategy for reducing maternal death.

Lower genital infection accounts for the most outpatients complain among women who are seeking for health care. One of the ways to reduce STDs transmission is to increase the number of clinicians adopting the Centers for Disease Control and Prevention's STD Treatment Guidelines (Dreisbach, et al., 2011) Till now some studies have demonstrated that education improves the skills and knowledge of staffs in health clinics. Dreisbach, et al., (2011) conduct a study for evaluation the improvement on clinician’s skills and knowledge. For this aim 110 direct care clinicians enrolled the study and participated in one of 27 standardized 3-day interactive training and results shows Trainees demonstrated significant post-training gains in mean knowledge scores immediately post-training (P < 0.001) and 6 months post-training (P = 0.002). Participants indicate some difficulties such as inadequate time, facilities and staffing that they couldn’t interfere with implementation of recommended practices. Canchihuaman et al., (2011) also conduct a study for evaluate the effectiveness of an interactive internet-based continuing education course on sexually transmitted diseases for physicians and midwives in Peru and shows improvement in their knowledge after 4 months, Green et al, 1994 study include a 6.5day seminar that enrolled 628 health provider that participate 1day at least, shows no significant differences between consultant – education and management (P>0.05). In the present study we evaluate significant differences between before and immediately after and 6months after education. Differences between these studies may because of more interactivity and lower participant of our studies. Even some studies (Shah et al., 2007) investigate the impact of free syndrome packets for non-formal care providers and the results shows positive impact of these on the quality of STD care among the trained providers. Wolff, (2014) conclude from their studies that Significant changes in the teaching dental management of the elderly are critical within much of the education community and these kind of result from such studies shows that the importance of the education because as they mentioned, the skills necessary to manage the complex patient. Alinier et al., (2014) investigated the high-level simulation education initiatives in relation to critical care and said that very topical across all professions and specialties in order to improve patient safety and quality of care In the present study we tried to investigate the effect of education of gynecologic infections on the knowledge and clinical skills of staff in selected health clinics. Results showed a significant difference
immediately after and 6 weeks after education as compared with the control group. The training solved some but not all problems of poor case management but continuous supervision should be provided to enable midwives to maintain the knowledge and skills acquired in education that provided for their improvement. However, the power of this study is its smaller size, that cause more attention to the participant and using active method such as for their learning and more active method used in the study. The findings of the present study show that educational interventions with using active methods and participation improves the knowledge and clinical skills of Medical and health care personnel concerning genital area infections.

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REFERENCES


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